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Scott Hewett

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Attorney Docket No. CP0001US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OCT 11 2005

First Named Inventor: Hung, P.

Application No.: 09/625,442

Filed: 07/26/2000

For: CONFIGURABLE ELECTRONIC

REDEEMABLE COUPON

Examiner: Carlson, J. D.

Art Unit: 3622

APPEAL BRIEF UNDER

37 C.F.R. §1.192

MAIL STOP APPEAL BRIEF- PATENTS Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313-1450

Sir:

The Appellants appeal from the final rejection of pending claims 2-9 and 11-13, and 24, and files this Appeal Brief in triplicate. Check No. 2446, payable to the Director of the U.S. Patent and Trademark Office for \$250.00 is enclosed. The Commissioner is hereby authorized to charge any additional necessary fee for a small entity to USPTO Deposit Account No. 50-0891. This brief is being filed in furtherance of the Notice of Appeal mailed August 8, 2005.

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(1) REAL PARTY IN INTEREST

Dr. Patrick S. Hung, Ph.D is the real party in interest pursuant to 37 *CFR* § 1.192(c)(1).

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to the Appellant's legal representative that will directly affect or be directly affected by or have a bearing on the Board's decision in pending appeals pursuant to 37 CFR § 1.192(c)(2).

(3) STATUS OF CLAIMS

Claims 2-9, 11-13, and 24 are now pending in the application. Claims 1, 10, and 14-23 have been cancelled. Claims 2-9, 11-13, and 24 have been finally rejected and are on appeal.

(4) STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection mailed May 12, 2005.

(5) SUMMARY OF INVENTION

The present invention addresses problems arising when scanning a barcode from an electronic display of a portable electronic communication device, such as a mobile telephone or personal digital assistant ("PDA") (*Written Description*, page 3, lines 24-30). Problems arise when scanning a barcode from an electronic display that do not arise when scanning a printed barcode. Some problems arise because electronic displays used in portable electronic communication devices are intended to be viewed by human users and have attributes that contribute to scanning errors. Claim 13, for example, recites attributes of a portable electronic communication device with a display that improves first-scan rate ("FSR") (*Written Description*, page 7, lines 10-21) when scanning a barcode from an electronic display.

Other problems arise when the type of barcode format being displayed is different than the barcode format expected by the scanner. This problem arises with international traveling, for example, and is discussed in the *Written Description* on page 5, lines 14-21. Claim 8 addresses this problem by reciting the advantageous and distinctive feature of having "a memory containing a computer-readable program for generating a scannable coupon on the electronic display of the configurable portable electronic communication device from the coupon information and including instructions for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format."

(6) ISSUES

The following issues are on appeal:

- A. Whether claims 2-9, 11-13, and 24 are unpatentable as being obvious in light of U.S. Patent No. 5,523,794 by Mankovitz et al. (hereinafter "Mankovitz").
- B. Whether claim 8 is unpatentable as being obvious in light of Mankovitz in view of U.S. Patent No. 5,221,838 by Gutman et al. (hereinafter "Gutman").

(7) GROUPING OF THE CLAIMS

The claims on appeal are separately patentable and do not stand or fall together.

A listing of the claims on appeal is provided in the Appendix.

(8) **ARGUMENTS**

<u>Issue 1:</u> Whether claims 2-9, 11-13, and 24 are unpatentable as being obvious in light of Mankovitz.

Regarding independent claim 8, applicant respectfully submits that pursuant to 37 CFR § 1.111(c), claim 8 defines the following advantageous distinctive features that distinguishes over and avoids Mankovitz:

"a receiver configured to receive an electronic wireless transmission containing coupon information;" and

"a memory containing a computer-readable program for generating a scannable coupon on the electronic display of the configurable portable electronic communication device from the coupon information and including instructions for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format"

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The burden is on the Examiner to set forth a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598-99 (Fed. Cir. 1988); and *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). "A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all the facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejections. It may not, because *it* may *doubt* that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis. To the extent the Patent Office rulings *are* so supported, there is no basis for resolving doubts in favor of the Patent Office determination when there are deficiencies in the record as to the necessary factual basis supporting its legal conclusion of obviousness." *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S> 1057 (1968) (emphasis in original).

The Examiner asserts on page 2 of the final Office action mailed 05/12/2005 ("Office action") that Mankovitz teaches a device having a wireless receiver. This is in error because Maknovitz discloses an infrared detector (Col. 3, lines 51-53, Fig. 1A, ref. num. 16), which is not "a receiver configured to receive an electronic wireless transmission," as recited in claim 8. On page 6 of the Office action, the Examiner states that "[t]he IR receiver port 16 of Mankovitz et al [sic] is taken to provide such a feature." The undersigned respectfully notes that, in Col. 3, Mankovitz defines reference numeral 16 as "an IR detector", not "an IR receiver port", as stated by the Examiner. The Examiner further states that "[b]oth RF and IR are in the electromagnetic spectrum and are taken to be "electronic" transmissions," and that "[e]ven thought the IR may be optically perceivable to a human (in the visible spectrum), the transmission is nonetheless taken as "electronic."" Detailed Action, page 6. In order to avoid being deemed to have acquiesced to the Examiner's statement, the Appellant traverses the assertion that IR is optically perceivable or in the visible spectrum. IR is generally considered to be outside the visible spectrum, specifically, to have wavelengths longer than visible light.

The Examiner's position is in error because an IR detector is not a receiver

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configured to receive an electronic wireless transmission. IR and RF systems are completely different, operate on completely different principles, and are recognized as being different in the art. As explained on page 4, lines 16-18 of the *Written Description*, an electronic receiver, such as a wireless modem, coupled to an antenna (Fig. 1A, ref. num. 24) receives information broadcast from a transmitter. In comparison, an IR detector is illuminated by a beam of IR light from an IR emitter, as shown in Fig. 1A, ref. num. 14 of Mankovitz.

As is well-known in the art of IR data transfer, a photodetector converts the IR light from the IR transmitter into an electronic signal (see, e.g. Baker, *Wireless Communication Using the IrDA® Standard Protocol*, Microchip Technology, Inc. (2003), submitted as Exhibit A in the amendment mailed January 24, 2005 and *Introduction to IrDA*, ¶ 1, submitted as Exhibit B in the amendment mailed January 24, 2005). In contrast, an electronic wireless transmission is already in electronic form.

As explained in Exhibit A, IR technologies are better suited for short-range, point-to-point infrared communication channels. Portable electronic communication devices, such as cell phones, pagers, or PDAs (see, *Written Description*, page 4, line 14) having a receiver configured to receive electronic wireless transmissions can operate over much greater distances, and do not have to be precisely aligned with the transmitter. Similarly, electronic wireless transmissions can travel through solid barriers, such as walls, that would block an IR transmission.

Mankovitz must be considered as a whole. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Considered as a whole, Mankovitz provides an IR detector suitable for the intended use of the electronic coupon described therein, with no motivation to replace the IR detector with a receiver configured to receive an electronic wireless transmission. Substituting the IR detector of Mankovitz for the receiver recited in claim 8 would change the operating principle of the electronic coupon of Mankovitz and require substantial redesign to both the electronic coupon and to the controller. Such substantial reconstruction and redesign contraindicates the Examiners holding of obviousness. See, *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

An IR beam is not an "electronic wireless transmission" nor is an IR beam

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equivalent to "an electronic wireless transmission." The IR detector of Mankovitz does not teach "a receiver configured to receive an electronic wireless transmission containing coupon information." Since the art relied upon by the Examiner in this rejection does not disclose or suggest all elements of claim 8, no *prima facie* case of obviousness has been established. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claim 8 also recites the advantageous and distinctive feature of "a memory containing a computer-readable program for generating a scannable coupon on the electronic display of the configurable portable electronic communication device from the coupon information and including instructions for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format." The Applicant teaches the desirability of this feature on page 5, lines 5-21 of the *Written Description*.

Mankovitz states that coupon information can be displayed in an "alphanumeric format showing the vendor/producer/dealer, amount of discount and expiration date" (Col. 5, lines 46-48), and that a "standard UPC bar code format is alternatively presented on the display" (Col. 5, lines 50-51). The Examiner has stated that "the alphanumeric coupon [of Mankovitz] can be taken to be a second barcode format." (Interview Summary mailed 12/29/2003). In the instant Office action, the Examiner now states that the "alphanumeric format is easily understandable by humans, while the barcode is easily understandable by machines. It would have been obvious to one of ordinary skill at the time of the invention to have provided the ability for the device of Mankovitz et al to convert the coupon data between several human-readable languages (English, Spanish, etc.) as well as several machine-readable barcode symbologies/formats (UPC, UCC/EAN-128, etc.) so that different human operators and different POS scanners requiring various barcode formats can process the coupons, for added flexibility and universality."

The Examiner is in error because "the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992). It would appear that the Examiner has read into Mankovitz. a teaching that is not there. This is contrary to the holding in

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Motorola Inc. v. Interdigital Technology Corp., 43 USPQ.2d (CAFC 1997). The Examiner is in further in error because Mankovitz does not disclose or suggest the memory recited in claim 8; therefore Mankovitz does not provide all elements of the claim. See, In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

In fact, Mankovitz teaches away from claim 8 and away from the asserted motivation because Mankovitz states that electronic coupons for <u>local</u> dealers (Col. 5, line 32, emphasis added) are transmitted to a controller (Fig. 1A, ref. num. 12) during vertical blanking intervals of television commercials. These electronic coupons are then transferred from the controller to a portable electronic coupon over an IR link or a cable. "In assessing prior art, court must have regard for all signposts contained in it; it must consider the passages which <u>point away</u> from the invention as well as those said to point toward it." *General Tire and Rubber Co. v. Firestone Tire and Rubber Co.*, 174 USPQ 427, 429 (ND Ohio, 1972). Mankovitz does not disclose or suggest providing translating capability for either alphanumeric or barcode display formats. Maniovitz teaches away from the modification urged by the Examiner because the electronic coupon of Mankovitz is intended for local dealers. Therefore no *prima facie* case of obviousness has been established.

The motivation for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format in the electronic wireless device is found in the Applicant's disclosure. The undersigned urges that the Examiner's wording of the asserted motivation be compared to the Applicant's teachings on page 5, lines 10-21 of the *Written Description*. The motivation for modifying the electronic coupon of Mankovitz asserted by the Examiner is strikingly similar to the Applicant's teachings, and seems to be nothing more than a retrospective view of the prior art, *i.e.* impermissible hindsight reasoning. An invention is not obvious when the suggestion to modify the prior art comes from the Applicant's teachings. See, *ACS Hospital Syatems, Inc. v. Montefiore Hospital*, 732 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1984).

On page 7 of the Detailed Action, the Examiner states that the term "configurable portable electronic communication device is presented in the preamble, but it is in the body of the claim that sets forth structural features which [sic] device such a device." The undersigned respectfully notes that the Amendment originally sent via facsimile

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transmission on January 20, 2004 (entered pursuant to the Request for Continued Examination mailed on February 24, 2004), amended claim 8 to recite the "configurable portable electronic communication device" in the body of the claim. As pointed out in the Remarks section of that Amendment, all elements of a claim must be considered. Since claim 8 recites the configurable portable electronic communication device in the body of the claim, the Examiner's above remarks are in error, or at best, irrelevant.

The Appellant respectfully submits that he has proven above that the Examiner's case of obviousness for claims 2-9,11-13, and 24 has not been factually proven as required by *In re Piasecki*, *supra*, and appellants therefore respectfully request that the Board remove the rejections of claims 2-9, 11-13, and 24.

Claims 2-4, 9, 11-13, and 24 are each further patentable because they recite elements for improving the first scan rate when scanning a barcode from the electronic display. The Applicant recognized not only problems arising when trying to scan a barcode from an electronic display, but teaches solutions to improve the first scan rate. For example, providing the electronic display with a nominal minimum dimension of less than about 13 mils and an inter-pixel spacing of less than about 1.3 mils (claim 2, Written Description, page 6, lines 11-13). Similarly, first scan rate can be improved by using a contrast-enhancing coating on the electronic display (claim 3, Written Description, page 7, lines 10-12), including an anti-reflective coating (claim 4, Id.)

The Applicant explains that conventional electronic displays are intended to be viewed by a human eye, which compensates for strobing, which is done to avoid needing a driver circuit for each pixel. *Written Description*, page 6, lines 16, 21-23. Stobing of an electronic display intended for viewing may not be suitable for scanning. Claim 9 recites a particular strobe rate for scanning. Similarly, claim 11 recites sufficient persistence to maintain sufficient contrast for electronic scanning.

The Examiner takes Official Notice "that is well known that the visual quality of a barcode is related to the success in registering an error-free scan," and that "Bushnell's Bar Code reference supports this and one of ordinary skill would recognize the same relationship between visual clarity and scanning success regardless of whether the barcode was printed or electronically displayed." The Examiner is in error for several reasons. First, visual clarity is not the primary issue when scanning a barcode from an

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electronic display. Visual clarity is an issue when designing an electronic display to be viewed by a human eye. However, as the Applicant explains on page 6 of the *Written Description*, conventional cell phones with electronic displays intended solely for viewing have often have undesirable characteristics for scanning, such as coarse resolution, low strobe rates, and quick relaxation. *Written Description*, page 6, lines 27-30.

Second, unsupported statements that aspects of invention are common knowledge are generally insufficient. *In re Zurko*, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001). The Examiner takes Official Notice of a generality ("visual quality") that is not relevant to scanning of barcodes from an electronic display. Nor does the Examiner indicate where in Bushnell's Barcode reference any facts exist to support his assertion that "visual quality of a barcode is related to the success in registering an error-free scan" from an electronic display. Official Notice unsupported by documentary evidence is only appropriate for facts that are capable of such instant and unquestionable demonstration as to defy dispute. The Examiner provides no facts in evidence that first scan rate of barcodes from an electronic display is even recognized as a concern in the art, much less how to improve it. The Examiner's unsupported Official Notice is improper.

The Examiner argues that Mankovitz has "sufficient" levels of inherent persistence and inherent strobe rate to enable scanning of the displayed barcodes." *Detailed Action*, page 3. This suggests that one would never be able to receive a patent over a device that was merely operable, no matter how superior the new device was. This is contrary to 35 U.S.C. § 101, which provides patentability for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Mankovitz does not recognize first scan errors of barcodes from an electronic display as a problem, and offers no teaching or suggestion on how to improve FSR from an electronic display.

The Examiner exhibits further error when he states that "one of ordinary skill would recognize the same relationship between visual clarity and scanning success regardless of whether the barcode was printed or electronically displayed." As explained above, several issues arise when scanning a barcode from an electronic

display, such as persistence and strobing, that simply do not arise with printed barcodes. Other issues, such as contrast, arise in vastly different contexts, such as the contrast-reducing reflections arising from the typically specular surface of an electronic display. Paper on which barcodes are printed typically does not have a specular surface causing such reflections. In short, the Examiner does not appear to appreciate that the design considerations for an electronic display intended for scanning are different than the design considerations for an electronic display intended solely for viewing, or that many issues arise when scanning barcodes from electronic displays do not arise when scanning printed barcodes.

On page 7 of the Detailed Action, the Examiner states that "[i]f Mankkovitz et al's barcodes and scanner equipment quality are anything other than the worst possible quality/tolerance, than the equipment and barcodes used by Mankovitz et al can be said to be of "improved quality"." Once again, the Examiner is using terms not relevant to the claim language. The claims relate to an electronic display, not scanner equipment. The Examiner is also in error regarding his assertion that the barcode would have to be the "worst possible quality."

Claim 24 recites "means for improving the first scan rate." In other words, the first scan rate of a barcode displayed on an electronic display is improved over the FSR of that same display without said means. The electronic display does not have to be the "worst possible quality" prior to including means for improving the first scan rate.

Merely having "sufficient clarity so that they can be operatively scanned" (*Detailed Action*, page 8) does not teach or suggest claim 24.

Therefore, claims 2-4, 9, 11-13, and 24 are further patentable, and each stands apart.

Claim 5 recites that the memory further contains a data file storing coupon information. Mankovitz does not disclose or suggest claim 5, which is further patentable and thus stands apart.

Claim 6, which depends from claim 5, recites that the data file includes a plurality of subfiles, at least one of the plurality of subfiles containing a plurality of coupon data fields, each of the coupon data fields in the subfile being related according to redemption. Mankovitz does not disclose or suggest claim 6, which is further patentable

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and thus stands apart.

Claim 7 recites that the coupon information is encrypted and the computer-readable program (*i.e.* the computer-readable program of the configurable portable electronic communication device) contains instructions executable by the processor to decrypt the coupon information. Mankovitz states that the video blanking interval ("VBI") signal is encrypted (Col. 5, lines 36-38). The VBI signal is provided to the controller 12 (Mankovitz, Figs. 1A and 3). The Applicant submits that decryption occurs in the controller, not in the electronic coupon of Mankovitz.

The Examiner argues it would have been obvious to have provided decryption functionality in the portable coupon device so that pirated/hacked/copycat portable coupon devices lacking such decryption ability cannot be used with the system of Mankovitz, thus providing the authorization security described by Mankovitz. The Examiner appears to be saying that Mankovitz provides authorization security (see Col. 9, lines 15-18, describing interrogation of the portable data coupon for serial number. see also, Fig. 2, ref. num. 32 "IR emitter" and related description), but after reading Mankovitz and taking it as a whole, one would be lead to do something completely different to substitute for what Mankovitz teaches. The Examiner is not free to redesign the prior art in such a fashion. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Furthermore, Mankovitz teaches transferring data between the controller and portable coupon device over either a cable, or an IR link. Both techniques are more immune to pirating than are electronic wireless transmissions, teaching away from the need to encrypt coupon information between the controller and electronic coupon, and thus teaching away from the desirability of providing decryption functionality in the electronic coupon of Mankovitz. Mankovitz does not teach or suggest claim 7, and claim 7 is further patentable and stands apart.

In view of the arguments presented above, the Appellant respectfully submits that the Examiner's grounds for the rejection of claims 2-9, 11-3, and 24 under 35 *U.S.C.* 103(a) as being unpatentable over Mankovitz are no longer tenable and Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences remove these rejections, and the case be passed to issue at an early date.

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<u>Issue 2:</u> Whether claim 8 is unpatentable as being obvious in light of Mankovitz in view of U.S. Patent No. 5,221,838 by Gutman et al. (hereinafter "Gutman").

Regarding independent claim 8, applicant respectfully submits that pursuant to 37 CFR § 1.111(c), claim 8 defines the following advantageous distinctive features that distinguishes over and avoids Mankovitz in view of Gutman:

"a memory containing a computer-readable program for generating a scannable coupon on the electronic display of the configurable portable electronic communication device from the coupon information and including instructions for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format"

The burden is on the Examiner to set forth a *prima facie* case of obviousness. See, *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598-99 (Fed. Cir. 1988); and *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). "A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all the facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejections. It may not, because *it* may *doubt* that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis. To the extent the Patent Office rulings *are* so supported, there is no basis for resolving doubts in favor of the Patent Office determination when there are deficiencies in the record as to the necessary factual basis supporting its legal conclusion of obviousness." *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968) (emphasis in original).

The Examiner states that Mankovitz teaches programming to convert between different coupon formats (*Detailed Action*, page 6), and cites Gutman for teaching a portable electronic wallet that stores data received through scanning printed barcodes,

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and that several different bar code formats can be supported (*i.e.* scanned) by the device. The Examiner urges that it would have been obvious "to have provided programming with Mankovitz et al to convert between various formats of displayed barcoded coupons so as to increase flexibility and universality of the device." The undersigned again urges comparison of the asserted motivation with the Applicant's teachings, as discussed above in support of claim 8, and notes that claim 8 recites instructions for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format, not a first "coupon format" to a second "coupon format" as argued by the Examiner.

Gutman does not teach converting a displayed barcode from one format to another. The scanner of Gutman can scan various barcode formats, but does not convert one to another, it reads "barcode information in a known way to conveniently capture bar code information into the electronic wallet." Col. 5, lines 3-6. Thus, the feature of scanning various barcode formats in the electronic wallet of Gutman may not be properly combined with the electronic coupon of Mankovitz to render claim 8 obvious.

The Examiner's argument seems to be that, since various barcode formats exist, which is acknowledged on page 5, line 11 of the *Written Description*, and that a barcode *scanning* device can *scan* various barcode formats, that one, after reading Mankovitz and Gutman and considering them both as wholes, would be led to provide the functionality taught by the Applicant and recited in claim 8 for the reasons taught by the Applicant. However, since Gutman teaches a scanning device that can support several different barcode formats, as noted by the Examiner, including the barcode format used by the electronic coupon of Mankovitz ("[a] standard UPC bar code format" Col. 5, line 50), there is no motivation for the modification urged by the Examiner. In fact, after reading Mankovitz and Gutman, one would more likely conclude that the ability of Gutman's scanner to read several different barcode formats teaches away from providing instructions for converting from one barcode format to another in the electronic coupon of Mankovitz.

Furthermore, even if these references were combined it would not result in the invention of claim 8 because there is no disclosure of a memory containing a computer-

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readable program for generating a scannable coupon on the electronic display of the configurable portable electronic communication device from the coupon information and including instructions for converting the scannable coupon from a first scannable barcode format to a second scannable barcode format in either reference in either reference. Thus, no *prima facie* case of obviousness has been established.

In view of the arguments presented above, the Appellant respectfully submits that the Examiner's grounds for the rejection of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Mankovitz in view of Gutman are no longer tenable and Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences remove these rejections, and the case be passed to issue at an early date.

Respectfully Submitted

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APPENDIX

- 2. The configurable portable electronic communication device of claim 8 wherein the electronic display has a nominal minimum dimension of less than about 13 mils and an inter-pixel spacing of less than about 1.3 mils.
- 3. The configurable portable electronic communication device of claim 24 wherein the means for improving the first scan rate comprises a contrast-enhancing coating disposed on the electronic display.
- 4. The configurable portable electronic communication device of claim 3 wherein the contrast-enhancing coating comprises an anti-reflective coating.
- 5. The configurable portable electronic communication device of claim 8 wherein the memory further contains a data file storing coupon information.
- 6. The configurable portable electronic communication device of claim 5 wherein the data file includes a plurality of subfiles, at least one of the plurality of subfiles containing a plurality of coupon data fields, each of the coupon data fields in the subfile being related according to redemption.
- 7. The configurable portable electronic communication device of claim 5 wherein the coupon information is encrypted and the computer-readable program contains instructions executable by the processor to decrypt the coupon information.
- 8. A configurable portable electronic communication device comprising: a receiver configured to receive an electronic wireless transmission containing coupon information;

a processor electronically coupled to the receiver;

an electronic display coupled to the processor;

a memory containing a computer-readable program for generating a scannable coupon on the electronic display of the configurable portable electronic communication device from the coupon information and including instructions for converting the

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scannable coupon from a first scannable barcode format to a second scannable barcode format.

- 9. The configurable portable electronic communication device of claim 24 wherein the electronic display is a dot-matrix liquid crystal display and the means for improving the first scan rate comprises having a strobe rate of the dot-matrix liquid crystal display sufficiently high to maintain sufficient contrast for electronic scanning of the scannable coupon shown on the dot-matrix liquid crystal display.
- 11. The configurable portable electronic communication device of claim 24 wherein the means for improving the first scan rate comprises a liquid crystal display having sufficient persistence to maintain sufficient contrast for electronic scanning of the scannable coupon shown on the liquid crystal display.
- 12. The configurable portable electronic communication device of claim 8 wherein the electronic display is a dot-matrix liquid crystal display having pixels capable of maintaining a contrast ratio of at least 1:4 between a light portion of a bar code and a dark portion of a bar code displayed on the electronic display between a first strobe signal and a second strobe signal to the pixels.
- 13. A configurable portable electronic communication device comprising: a receiver configured to receive a wireless transmission containing coupon information;

a processor electronically coupled to the receiver;

a persistent dot-matrix liquid crystal display having a minimum nominal dimension of less than or equal to about 13 mils and an inter-pixel spacing of less than or equal to about 1.3 mils coupled to the processor;

a memory containing a computer-readable program, the processor reading the computer-readable program to generate a scannable coupon code from the coupon information on the electronic display.

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24. The configurable portable electronic communication device of claim 8 further comprising means for improving the first scan rate of the scannable coupon from the electronic display of the configurable portable electronic communication device.